

### **AMENDMENTS TO THE CLAIMS**

This listing of the claims replaces all prior versions, and listings, of claims in the application:

#### **LISTING OF CLAIMS**

1. (Currently Amended) A method of ~~treatment or prevention of~~ inhibiting radiation damage to tissue of a subject due to radiation exposure, comprising

A) ~~first administering to a the subject in need of such treatment~~ an effective amount of a composition comprising ~~1) a compound including a radiation damage-inhibiting, actin-binding or actin-sequestering polypeptide comprising amino acid sequence LKKTET [SEQ ID NO: 1], a conservative variant of LKKTET [SEQ ID NO: 1], an actin-sequestering agent, an anti-inflammatory agent; 2) an agent which stimulates production of said compound in said subject; 3) an agent which regulates said compound in said subject; or 4) an antagonist of said compound, KLKKTET [SEQ ID NO: 2], LKKTETQ [SEQ ID NO: 3], Thymosin  $\beta$ 4 (T $\beta$ 4), an N-terminal variant of T $\beta$ 4, a C-terminal variant of T $\beta$ 4, an isoform of T $\beta$ 4, a splice-variant of T $\beta$ 4, oxidized T $\beta$ 4, T $\beta$ 4 sulfoxide, lymphoid T $\beta$ 4, pegylated T $\beta$ 4, T $\beta$ 4<sup>ala</sup>, T $\beta$ 9, T $\beta$ 10, T $\beta$ 11, T $\beta$ 12, T $\beta$ 13, T $\beta$ 14, T $\beta$ 15, gelsolin, vitamin D binding protein (DBP), profilin, cofilin, adseverin, propomyosin, filincillin, depactin, Dnasel, vilin, fragmin, severin, capping protein,  $\beta$ -actinin or acumentin, the composition comprising said compound at a concentration of about 0.005 - 0.1% by weight, and~~

~~B) then administering radiation to a target area of said subject, so as to inhibit wherein said radiation-inhibiting polypeptide inhibits radiation damage in said subject.~~

2. (Canceled)

3. (Canceled)

4. (Original) The method of claim 1 wherein said compound is thymosin beta 4 (T $\beta$ 4).

5. (Previously Presented) The method of claim 1 wherein said compound is present in an injectable carrier, a gel, cream, paste, lotion, spray, salve, suspension, dispersion, hydrogel or ointment.

6. (Original) The method of claim 1 wherein said compound is delivered systemically to said subject by injection, infusion, pulmonary delivery, or orally, rectally, nasally, transdermally, or a combination thereof.

7. (Canceled)

8. (Canceled)

9. (Original) The method of claim 1 comprising administering said compound to said subject so as to protect radiosensitive stem cells in said subject.

10. (Original) The method of claim 1 wherein said stem cells are in blood, bone marrow or gastrointestinal tract tissue of said subject.

11. (Original) The method of claim 1 wherein said composition is administered systemically.

12. (Original) The method of claim 1 wherein said composition is administered topically.

13. (Original) The method of claim 1 wherein said composition is administered enterally.

14. (Original) The method of claim 1 wherein said radiation is ionizing radiation.

15. (Currently Amended) ~~The method of claim 4~~ A method of preventing damage due to radiation exposure comprising administering to a subject an effective amount of a composition comprising a radiation damage-inhibiting polypeptide comprising amino acid sequence LKKTET [SEQ ID NO: 1], a conservative variant of LKKTET [SEQ ID NO: 1], KLKKTET [SEQ ID NO: 2], LKKTETQ [SEQ ID NO: 3], Thymosin  $\beta$ 4 (T $\beta$ 4), an N-terminal variant of T $\beta$ 4, a C-terminal variant of T $\beta$ 4, an isoform of T $\beta$ 4, a splice-variant of T $\beta$ 4, oxidized T $\beta$ 4, T $\beta$ 4 sulfoxide, lymphoid T $\beta$ 4, pegylated T $\beta$ 4, T $\beta$ 4<sup>ala</sup>, T $\beta$ 9, T $\beta$ 10, T $\beta$ 11, T $\beta$ 12, T $\beta$ 13, T $\beta$ 14, T $\beta$ 15, gelsolin, vitamin D binding protein (DBP), profilin, cofilin, adseverin, propomyosin, fincilin, depactin, Dnasel, vilin, fragmin, severin, capping protein,  $\beta$ -actinin or acumentin, the composition comprising said compound at a concentration of about 0.005 - 0.1% by weight, further including a step of administering radiation to a target area of said

subject so as to treat cancer or a tissue abnormality in said target area, wherein said composition is administered to said subject before, during or after administration of said radiation to said target area, or a combination thereof, so as to inhibit radiation damage in said subject outside said target area.

16. (Original) The method of claim 15 wherein said composition prevents induced apoptosis of cells of said subject outside said target area.

17. (Currently Amended) The method of claim 3 15 wherein said composition is contained in a formulation at a concentration within a range of about 0.001-10% 0.01-0.05% by weight for administration to said subject.

18. (Withdrawn-Currently Amended) A substance for use in manufacturing a medicament for treatment or prevention of damage due to ionizing radiation exposure, comprising 1) a compound including a radiation damage-inhibiting amino acid sequence LKKTET SEQ ID NO: 1, a conservative variant of LKKTETUU SEQ ID NO: 1, an actin-sequestering agent, an anti-inflammatory agent; 2) an agent which stimulates production of said compound in said subject; 3) an agent which regulates said compound in said subject; or 4) an antagonist of said compound, so as to inhibit radiation damage in said subject.

19. (New) The method of claim 1 wherein said composition is contained in a formulation at a concentration within a range of about 0.01-0.05% by weight for administration to said subject.

20. (New) The method of claim 4 wherein said composition is administered at a dosage within the range of about 0.1-50 micrograms of thymosin beta 4 (T $\beta$ 4).

21. (New) The method of claim 20 wherein said composition is administered at a dosage within the range of about 1-25 micrograms of thymosin beta 4 (T $\beta$ 4).